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Immature Stages of *Odonna passiflorae* Clarke (Lepidoptera: Oecophoridae): Biology and Morphology

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Abstract. This paper describes the larva and pupa of *Odonna passiflorae* Clarke (Lepidoptera: Oecophoridae), its host and natural enemies.

The feeding habits of Oecophoridae larvae are extremely varied. In Colombia, *Maesara gallegoi* Clarke was found boring into stumps and limbs of apple trees (*Malus* sp.), and *Inga* sp. and *Borkhausenia* sp. were found chewing on citrus and wheat seeds respectively (Posada *et al.*, 1976).

Odonna passiflorae Clarke was found on curuba (*Passiflora mollissima* Bailey) vines and has become an economically important plague for this crop.

Methods and Materials

This research was carried out at Tenerife, a small Colombian town located in the Andes at 2600 m. It has a temperature of 13.8°C and 81% Relative Humidity (RH).

Curuba was established as a crop in approximately 1960 in this area of Colombia and has become the most important source of income for many peasants. Extensive field observations were made from March 1980 to July 1981.

Adult individuals were obtained by rearing immature stages in the laboratory (in Cali, 1000 m, 20°C and 67% RH). Larvae were placed in plastic boxes (10 x 7 x 3.5 cm) containing 8-10 stem pieces (8 cm long) of curuba on top of a wet layer of sterile soil-sawdust mixture.

Descriptions of larval stages and nomenclature of setae are according to Peterson (1962).

Results

Description of the larva:

Body: 18-21 mm long, cream white with skin smooth; center of spiracles creamish, peritremes brown (Fig. 1a). **Head:** about 2.1 mm wide, yellowish brown, height of frons greater than length of epicranial

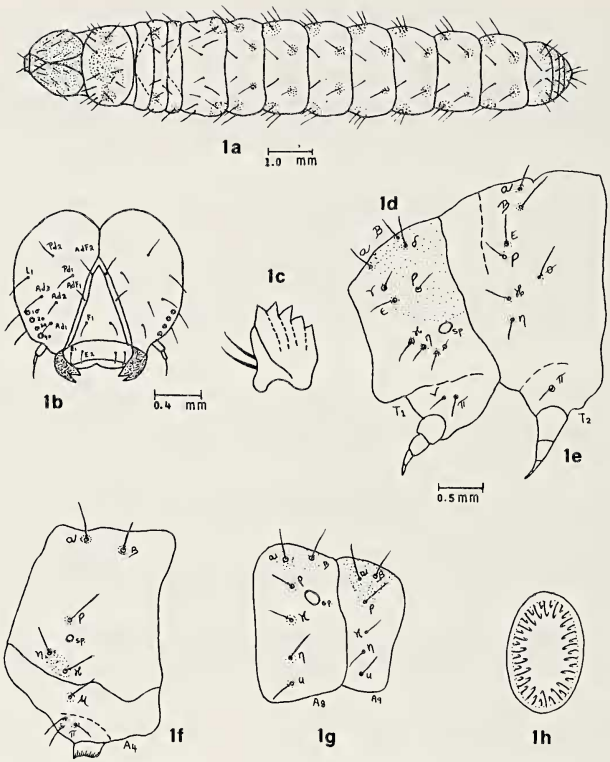

Fig. 1. **a.** Dorsal view of caterpillar; **b.** Frontal view of head capsule; **c.** Mandible; **d.** Prothorax; **e.** Mesothorax; **f.** Fourth abdominal segment; **g.** Eight and ninth abdominal segment; **h.** Crochets biordinal circle.

suture; frons width less than its height; the fourth ocellus is much closer to the third than to the fifth, and the second is always farther from the first than the third; setae Adf^2 and Pd^1 at the same level; seta Ad^2 closer to Ad^3 than to Ad^1 (Fig. 1b). Spinneret narrow and rounded apically; mandibles with five teeth (Fig. 1c). **Thorax:** Prespiracular group on the prothorax trisetose, distinctly separated from the cervical shield which is slightly dark dorsally; seta rho below seta delta; epsilon posteroventral to gamma; Pi group (subventral) bisetose (Fig. 1d). Mesothorax and metathorax with the seta beta directly below alpha; eta below kappa and Pi group unisetose (Fig. 1e). Prothoracic spiracle as large as 8th abdominal spiracle and larger than the others. **Abdomen:** setae eta and kappa adjacent, located below the spiracle (Fig. 1f). On 8th and 9th segments, the seta beta is closer to the dorsomeson than seta alpha (Fig. 1g). The prolegs are short and possess circles of biordinal crochets present on segments 3 to 6 (Fig. 1h).

Description of the pupa:

Obtected type; dark yellow, from 9.5 to 13.0 mm long; labrum simple; labial palpi concealed; without functional mandibles; fronto-clypeal suture obsolete in middle; antennae diverging at apex and reaching almost to the tip of wings; forewings not extending beyond the 4th abdominal segment; first 4 abdominal segments longer than the rest; epicranial suture not visible.

Host plant and feeding habits:

The larvae are gregarious. They feed on the main stem and limbs of curuba plants. The young larva bores into the inner bark of the vine and continues to the heartwood where it makes long tunnels and irregular galleries (Fig. 2). The larva maintains contact with the outside and expels large amounts of sawdust and frass that cling in masses on the bark.

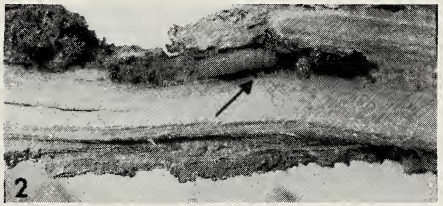

Fig. 2. Injury to the trunk of *Passiflora mollissima* Bailey caused by the borer *Odonna passiflorae* Clarke.

Pupation occurs inside the trunk and the new adult emerges through the bark, leaving a shot-hole effect. Infestation may be recognized by wilted, off-color foliage and longtitudinal scars in the bark. The borer prefers old curub vines (6 years of age), but once the old plants are destroyed, they attack younger plants (+ 1 year of age).

Natural enemies:

The larval stage is attacked by a number of parasites, including wasps (Icheumonidae) and flies (Tachinidae). Also, disease causing micro-organisms sometimes result in death of large numbers of borers. The fungus *Beauveria bassiana* has been isolated from dead and dying larvae. This pathogen has been recognized as an effective control agent.

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